EWT(m)/EWP(w)/EWA(d)/EPR/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) Pf-4/Pg-4

[illegible]/0029/0032

AP5006038

[illegible]enski, Khr. (Docent, Engineer, Candidate of technical sciences); Bychvarov, Iv. (Engineer)

[illegible]ure of plastic deformation at superhigh velocities

SOURCE: Mashinostroene, no. 12, 1964, 29-32

[illegible] deformation, metal deformation, hardened structure

[illegible] of metals [illegible] the emission at superhigh [illegible] velocities which [illegible] the specimen [illegible] from a [illegible]

[illegible] of the specimen at impact, [illegible] by the formula:

$$V_g = V_0 \pm \Delta V_2$$

Card [illegible]

[illegible] velocities. It is suggested that plastic deformation at extremely [illegible] may differ from cold plastic deformation and perhaps may resemble [illegible] Orig. art. [illegible] table.

[illegible]

L [illegible]

ACCESSION NR: AP5006098

2

where $V_r$ is the actual impact velocity, $V_0$ is the velocity for a standard bullet [illegible], and $\Delta V_0$ is the change in initial velocity which depends on parameters [illegible]. Charges of 1.10, 2.20 and 3.30 grams were used (standard charge is [illegible] grams). The calculated velocities for these charges were 35,640, 49,080 and [illegible] m/min respectively. The test results are given in tabular form and curves are drawn for the relationship between deformation and velocity for all metals [illegible]. Photographs of the specimens are also given. It was found that all metals tested were hardened at velocities above 36,000 m/min. Mechanical hardening [illegible] was found in Cr steel and least in the pure metals (aluminum and copper). The curve seemed to stabilize at deformation velocities ranging from [illegible] for all metals except [illegible] that [illegible] to increase [illegible] at greater velocities. It is suggested that [illegible] deformation at extremely [illegible] from [illegible] resample [illegible]

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, ME

NO REF SOV: 001 OTHER: 000

Card 2/2

KORTEV, A.I.

Vascular conditioned reflex reactions in chronic bacillary dysentery. Arkh. pat., Moskva 15 no.6:49-55 Nov-Dec 1953. (CIML 25:5)

1. Of the Department of Infectious Diseases and Epidemiology (Head — Prof. V. P. Petrov), Kuybyshev Medical Institute (Director -- Prof. T. I. Yeroshevskiy).

KORTEV, A.I.; AFANAS'YEVA, N.T.

Unusual case of amebic dysentery. Klin. med., Moskva 31 no.6:86-87 June 1953. (CIML 25:1)

1. Candidate Medical Sciences for Kortev. 2. Of the Department of Infectious Diseases (Head -- Prof. V. P. Petrov), Kuybyshev Medical Institute.

SINAY, G.Ya; KORTEV, A.I.

Review of "Problems of prevention and treatment of dysentery," edited by G.IA.Sinai. Sov.med. no.2:46-48 F '54. (MLRA 7:1)
(Dysentery)

KORTEV, A.I., kandidat meditsinskikh nauk; FEDOTOVA, K.G.

Treatment of patients with chronic bacterial dysentery in polyclinics. Sov.med.18 no.1:31-32 Ja '54. (MLRA 7:1)

1. Iz kafedry infektsionnykh bolezney (zaveduyushchiy - zaslushennyy deyatel' nauki professor V.P.Petrov) Kuybyshevskogo meditsinskogo instituta (direktor - professor T.I. Yeroshevskiy) i lechebno ob"yedineniya zheleznodorozhnogo uzla stantsii Kuybyshev (nachal'nik A.L.Davidovich). (Dysentery)

Kortev A.I.

KORTEV, A.I., kandidat meditsinskikh nauk

Ornithosis. Sov.med.19 no.7:60-63 Jl '55. (MLRA 8:10)

1. Iz kafedry infektsionnykh bolezney s epidemiologiyey (zav. zasluzhennyy deyatel' nauki prof. V.P.Petrov) Kuybyshevskogo meditsinskogo instituta (dir.prof. T.I.Yeroshevskiy)

(ORNITHOSIS
virol.,clin.aspects & diag.)

KORTEV, A.I., kandidat meditsinskikh nauk

Typhus fever transmitted by parasites and its control. S.G. Gladkikh. Reviewed by A. I. Kortev. Sov.med.19 no.9:92-93 S '55. (MLRA 8:12)
(TYPHUS FEVER) (PARASITOLOGY) (GLADKIKH, S.G.)

KORTEV, A.I., kandidat meditsinskikh nauk (Kuybyshev)

"Carrying of bacilli and its control." I.R.Drobinskii. Reviewed by A.I.Kortev. Klin.med.33 no.6:92-94 Je '55. (MLRA 8:12)
(COMMUNICABLE DISEASES)
(DROBINSKII, I.R.)

KORTEV, A.I.

"Rectoromanoscopy in bacillary dysentery in children and adults."
D.V.Poleshko, A.S.Poliakova. Reviewed by A.I.Kortev. Sov.med. 20
no.8:94-95 Ag '56. (MLRA 9:10)
(DYSENTERY--DIAGNOSIS) (POLESHKO, D.V.)
(POLIAKOVA, A.S.)

KORTEV, A.I., kandidat meditsinskikh nauk; TANTSYREVA, Ye.N.; KAZAKOVA, K.S.

Problem of listerellosis. Klin. med. 35 no.1:102-104 Ja '57 (MLRA 10:4)

1. Iz kafedry infektsionnykh bolezney (zav.-zaslushennyy deyatel' nauki prof. V.P. Petrov) Kuybyshevskogo meditsinskogo instituta.
(MONONUCLEOSIS)

KORTAVA, A.I.

L-forms of the dysentery pathogen. Zhur.mikrobiol.epid. i immun. 29 no.3:126-127 Mr '58. (MIRA 11:4)

1. Iz kafedry infektsionnykh bolezney I Moskovskogo meditsinskogo instituta.
(SHIGELLA PARADYSENTERIAE)

KORTEV, A.I., dotsent

Salivation and its peripheral receptor apparatus in dysentery. Vrach. delo no.5:461-463 My '59. (MIRA 12:12)

1. Kafedra infektsionnykh bolezney (zav. - dotsent A.I. Kortev) Sverdlovskogo meditsinskogo instituta.
(SALIVARY GLANDS--INNERVATION) (DYSENTERY)

KORTEV, A.I., dotsent

From the history of Chinese medicine. Vrach.delo no.6:659 Je '59.
(MIRA 12:12)

1. Kafedra infektsionnykh bolezney (zav. - dotsent A.I. Kortev) Sverdlovskogo meditsinskogo instituta.
(CHINA--MEDICINE)

KORTEV, A. I., Doc Med Sci -- (diss) "Clinical aspect, problems of pathogenesis and treatment of chronic relapsing dysentery." Kuybyshev, 1960. 32 pp; (Chair of Infectious Diseases of the First Moscow Order of Lenin Medical Inst im I. M. Sechenov, Chair of Infectious Diseases of the Kuybyshev Medical Inst, Chair of Infectious Diseases of the Sverdlovsk Medical Inst); 250 copies; price not given; list of author's work at end of text (13 entries); (KL, 22-60, 143)

KORTEV, A.I., dotsent

Some questions on the problem of dysentery. Trudy Kuib.med.inst. 11:118-124 '60. (MIRA 15:8)

(DYSENTERY)

KORTEV, A.I., dotsent

Errors in the diagnosis of infectious diseases. Sbor.rab.Sverd. med.inst. no.32:3-72 '61. (MIRA 16:2)

1. Zaveduyushchiy kafedroy infektsionnykh bolezney Sverdlovskogo gosudarstvennogo meditsinskogo instituta.
(COMMUNICABLE DISEASES) (DIAGNOSIS)

KAPLINSKIY, M.B., kand.med.nauk; BURGANSKIY, B.Kh., kand.med.nauk; KORTEV, A.I., kand.med.nauk; MALYARCHIKOVA, G.S.; ANAN'YEV, I.T.; GUSEV, N.P.; KARASEV, A.G.

Listerellosis infection in the Urals. Sbor.rab.Sverd.med.inst. no.32:73-78 '61. (MIRA 16:2)

1. Iz Okruzhnogo Sanitarno-epidemiologicheskogo otryada (nachal'nik A.S.Mats) i kafedry infektsionnykh bolezney (zav. kafedroy - dotsent A.I.Kortev) Sverdlovskogo meditsinskogo instituta.

(URAL MOUNTAIN REGION--LISTERELLOSIS)

KORTEV, A.I., dotsent

Some immunogenic indices in patents with chronic, recurrent dysentery in the light of the teaching regarding the variability of the pathogens. Sbor.rab.Sverd.med.inst. no.32:113-122 '61.

1. Iz kafedry infektsionnykh bolezney (zav. kafedroy dotsent A.I.Kortev) Sverdlovskogo meditsinskogo instituta.
(DYSENTERY) (IMMUNITY)

KORTEV, A.I., dotsent

Case of severe allergic reaction with agranulocytosis to pyramidon. Sbor.rab.Sverd.med.inst. no.32:153-155 '61. (MIRA 16:2)

1. Iz kafedry infektsionnykh bolezney (zav. kafedroy - dotsent A.I.Kortev) Sverdlovskogo meditsinskogo instituta.

(ALLERGY) (AMINOPYRINE)

KORTEV, A.I.; doktor med.nauk; FEDOROVA, A.S.

Ornithosis in Sverdlovsk Province. Sov.med. 26 no.2:124 F'63.
(MIRA 16:6)

1. Iz kafedry infektsionnykh bolezney (zav. - doktor med. nauk A.I.Kortev) Sverdlovskogo meditsinskogo instituta.
(SVERDLOVSK PROVINCE--ORNITHOSIS)

KORTEV, A.M.; RASOV, K.I., inzh.; TAVANETS, S.M., inzh.

Effect of new technology on industrial injury. Izv. vys. uch. zav.; gor. zhur. 5 no.6:54-60 '62. (MIRA 15:9)

1. Sverdlovskiy okrug Gosudarstvennogo komiteta pri Sovete Ministrov RSFSR po nadzoru za bezopasnym vedeniyem rabot v promyshlennosti i gornomu nadzoru.
(Sverdlovsk Province--Mining engineering--Safety measures)

PARKHON-SHTEFANESKU, K.; KORTEZ, R.; PETRESKU, F.

Hysterical paraplegia with an unusually long course. Zhur. nevr.i psikh. 60 no.10:1318-1323 '60. (MIRA 14:1)
(PARAPLEGIA) (HYSTERIA)

KORTHALS, Edmund, Warszawa, ul. Szczesliwicka 23 m.35.

Use of self-polymerizing material for permanent dental prosthesis.
Czas.stomat. 8 no.2:68-74 Feb '55.

(DENTAL PROSTHESIS
acrylic resins,self-polymerizing, evaluation)
(ACRYLIC RESINS
self-polymerizing for dental prosth.,practical evaluation)

KORTHALS, Edmund; PATRYCY, Lech

Contribution to the study of air-borne infections in stomatological practice. Wiad. lek. 18 no.11:931-934 1 Je '65.

1. Z Katedry Stomatologii 2 Centr. Szpitala Klin. Wojskowej AM (Kierownik: doc. dr. E. Korthals).

KORTIKOV, V.S.; ZYKOV, D.D., doktor tekhn.nauk

Calculating the distillation process of a multicomponent mixture by conditional equilibrium curve. Koks i khim. no.11:49-53 '63.
(MIRA 16:12)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

ASTAKHOV, V.I.; ZYKOV, D.D.; KORTIKOV, V.S.

Number of units of transfer in the rectification of binary mixtures. Khim. prom. 40 no.10:763-764 O '64. (MIRA 18:3)

KONTIKOV, V.S.; ZYKOV, B.D.

Infinite reflux operation of a packed column in the rectification of multicomponent mixtures. Izv. vys. ucheb. zav.; neft' i gaz 6 no.7:55-59 '63. (MIRA 17:8)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

KORTIKOVA, I.

On a progressive fishing vessel. Mor. flot 22 no.8:4 Ag '62.
(MIRA 15:7)

1. Nachal'nik otdela truda i zarabotnoy platy Upravleniya tralovogo flota Baltiyskogo gosudarstvennogo rybolovnogo tresta.

(Trawls and trawling)

KORTIKOVA, I.

Progressive team. Mor.flot 22 no.12:46 D '62. (MIRA 15:12)

1. Nachal'nik otdela truda i zarabotnoy platy Upravleniya tralovogo flota Baltiyskogo gosudarstvennogo rybolovnogo tresta.
(Merchant seamen)

KORTIKOVA, Klavdiya Dmitriyevna, dots.; YEGOROVA, Anna Stepanovna, prepodavatel'; MAZURKEVICH, M., red.; LEBEDEV, A., tekhn.red.

[Mechanization of accounting on state farms] Mekhanizatsiia bukhgalterskogo ucheta v sovkhozakh. Moskva, Gosfinizdat, 1963. 107 p. (MIRA 16:6)

1. Leningradskiy finansovo-ekonomicheskiy institut (for Kortikova).
(Leningrad Province--State farms--Accounting)
(Machine accounting)

GUNDOROVA, R.A.; SHCHEKINA, A.N.; KORTIKOVA, Ye.A.

Intermedin in the treatment of complicated myopia and pigmentary degeneration of the retina. Vest. oft. 73 no. 4:37-38 Jl-Ag '60. (MIRA 14:1)

(PITUITARY BODY—SECRETIONS) (MYOPIA)
(RETINA—DISEASES)

KORTIKOVSKIY, I.K.

PHASE I BOOK EXPLOITATION 289



Vsesoyuznyy teplotekhnicheskiy nauchno-issledovatel'skiy institut

Teplovoy raschet kotel'nykh agregatov; normativnyy metod (Heat Calculation of Steam Boiler Units: standard method) Moscow, Gosenergoizdat, 1957. 232 p.
Supplement: Nomogrammy dlya raschetov (Nomograms for calculations) 31 p.
25,000 copies of each printed.

Additional sponsoring agencies: Ministerstvo elektrostantsiy SSSR; Ministerstvo tyazhelogo mashinostroyeniya SSSR; Tsentral'nyy nauchno-issledovatel'skiy kotloturbinnyy institut.

Eds. (title page): Gurvich, A. M., Doctor of Technical Sciences, Professor, and Kuznetsov, N.V., Doctor of Technical Sciences; Ed. (inside book): Kortikovskiy, I. K.; Tech. ed.: Fridkin, A. M.

PURPOSE: This book is intended for engineers working in the field of design and construction of boiler units, for electric power plant engineers, and students or vtuzes.

Card 1/15

[illegible] pages. Most of the material is based on the extensive research conducted by the various Soviet scientific institutes. In connection with the material on fuels the author mentions the work of VTI under the direction of Korelin, A.I. (deceased). The discussions on physical characteristics of gases, water and steam mention the work of VTI under the direction of Timrot, D.L., and Vargaftik, N.B. The chapters on "Volumes and Enthalpy of Air and Products of Combustion" and "Boiler Heat Balance" employ materials from the

Head Calculation of Steam (Cont.)

under the direction of Gurvich, A.M., in cooperation with Kendys', P.N., (methods of calculating heat transfer in a furnace); Kuz'min, N.V., Rubin, M.M., Storozhuk, Ya.P., and Terent'ev, V.D. (definition of formulae and coefficients on the basis of new experimental data of VTI, TsKTI and TsNII). Methods for calculating convective heat transfer with transverse flow of the flue gases, heat transfer in finned-tube economizers, and in air preheaters are based on the works of VTI under the direction of Kuznetsov, N.B., with participation of Baravitskiy, I.B., Karasina, E.S., Lokshin, V.A., and Shcherbakov, A.Z. A general method for calculating heat transfer in finned tubes is based on the work of Karasina, E.S. (VTI). Derivation of equations for calculating heat transfer is based on the results of the works of Artuf'yev, V.M., and Beletskiy, G.S., (TsKTI). Calculation of heat transfer with inside air flow and longitudinal flow of flue gases is based on the work of TsKTI under the direction of Il'in, L.N., (deceased) and data from the work of Ioffe, D.M., MVTU (Moscow Higher Technical School imeni Bauman). Calculation of heat radiated from combustion gases is based on the results of experimental work of TsKTI under the direction of Gurvich, A.M.; with participation of Blokh, A.G.; Miter, V.V.; and Novitskiy, A.I. Methods for calculating coefficient of clogging in the tube bundles are based on the results of experimental work of Kuznetsov, N.V.; Shcherbakov, A.Z.; Panasenko, M.D.; Karasina, E.S. (VTI); and Mochan, S.I., Revzina, O.G. (TsKTI). Methods for calculating mean temperature

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Head Calculation of Steam (Cont.)

difference were developed by Mochan, O.G. (TsKTI). Determination of access air coefficient, furnace heat losses, and coefficients of heat transfer is based on the results of industrial tests of boilers conducted by Baranov, A.P.; Barstein, I.K.; Berman, M.I. (deceased); Beskin, S.G.; Burgvits, G.A.; Gurvich, A.M.; Dvoretskiy, A.I.; Deshkin, V.N.; Duvoskiy, I.Ye.; Zhirnov, N.I.; Kendys', P.N.; Kisel'gof, M.L.; Lebedev, A.N.; Moroz, A.I.; Nechaev, Ye.V.; Rubin, M.M.; Sal'kov, P.G.; Tatishchev, S.V.; Sheynin, G.A.; Shil'dkret, M.M. (deceased), (TsKTI, and VTI).; and also Kazarnovskiy, Ye.M. (KBK IMZ). The following people took part in preparing the material for standard design methods: Alekseyev, K.A. (Ch. 7, e); Barstein, I.K. (Ch. 5, Ch. 4, B., and Appendix 5); Blekh, A.G. (Ch. 6, c; and Ch. 7); Baravitskiy, I.B. (Ch. 4, A; Ch. 5, and Appendix 1); Vargaftik, N.B. (Ch. 3); Gurvich, A.M. (Ch. 5 and Ch. 6, c; Ch. 7 and Appendix 5); Dvoretskiy, A.I. (data on petroleum residue for Ch. 2 and Ch. 3); Zakharov, A.A. (Appendix 4); Il'in, L.N. (deceased) (Ch. 7, b); Karasina, E.S. (Ch. 6, b, d, and e; Ch. 7 and Ch. 8); Kendys', P.N. (Ch. 5 and Ch. 6, and Appendix 5); Korelin, A.L. (deceased) (Ch. 2); Kuznetsov, N.V. (Ch. 7, b, d, e; and Appendix 5); Lebedev, A.N. (Ch. 5 and Appendix 5); Mochan, S.I. (Ch. 4, B; Ch. 7, c and d; Ch. 8, and Appendixes 3 and 4); Nevelson, S.P. (Ch. 5, Ch. 7, e, and Appendix 5); Panasenke, M.D. (Ch. 2 and Ch. 7, e); Revzina, O.G. (Ch. 4, B; Ch. 7, e and Appendixes 3, 4 and 6); Rubin, M.M. (Ch. 5); Sternina, A.B. (Ch. 6); Tager, S.A. (IN 5-03, 5-04); Tatishchev, S.V. (Ch. 5 and Appendix 5); Sheynin, G.A. (Ch. 5, and Appendix 5); Shcherbakov, A.Z. (Ch. 7, e); Shcherbakov, V.A. (Appendix 5). Advisors on questions of principle connected with

Card 4/15

PHASE I BOOK EXPLOITATION SOV/5153

Garmonov, I.V., and B. S. Kortkevich, Resp. eds.

Sintez monomerov dlya proizvodstva sinteticheskogo kauchuka (Synthesis of Monomers for the Production of Synthetic Rubber) Leningrad, Goskhimizdat, 1960. 250 p. Errata slip inserted. 4,500 copies printed.

Sponsoring Agencies: Gosudarstvennyy komitet Soveta Ministrov SSSR. Upravleniye SK i neftekhimii. Giprokauchuk i VNIISK.

Eds.: S.A. Zonis and Ye. I. Shur; Tech. Ed.: T.A. Fomkina.

PURPOSE: This book is intended for scientists, engineers, and technicians working in the synthetic rubber, plastics, and petroleum refining industries, and in scientific research institutes affiliated with these industries.

COVERAGE: The book contains articles which report on research carried out at the Nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni Akademika S.V. Lebedeva (Scientific Research Institute for Synthetic Rubber imeni Academician S.V. Lebedev) and the Gosudarstvennyy proyektnyy i nauchno-issledovatel'skiy institut promyshlennosti sinteticheskogo kauchuka

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Synthesis of Monomers (Cont.) SOV/5153

(State Scientific Research and Design Institute of the Synthetic Rubber Industry) in the synthesis of isoprene, styrene, acetylenes, acetaldehyde, and other initial products for synthetic rubber production. The articles also discuss methods of extracting these products from their preparatory media. No personalities are mentioned. References accompany individual articles.

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Synthesis of Monomers (Cont.)

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Kofman, L.S., V.S. Vinogradova, and V.M. Lukashina. Separation of Diene Hydrocarbons by Chemisorption With Water-Pyridine Solutions of Salts of Monovalent Copper. Report IV. Separation of Isoprene With Cuprous Acetate Solution and the Purification of Hydrocarbons From Pyridine 113

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AVAILABLE: Library of Congress

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JA/dwm/gmp
5-26-61

KORTKOV, D. V., ENG.

Steel - Standards

New standard for high speed steel, Vest. mash., 32, no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952, Uncl.

KORTLY S.

CZECHOSLOVAKIA / Analytical Chemistry. General Problems. E-1

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57115.

Author : Vrestal J., Havir J., Brandstetr J., Kortly S.
Inst : Not given.
Title : Complexometrical Titration. XXXIII. Basic Substances in the Complexonometry.

Orig Pub: Chem. listy, 1957, 51, No 11, 2023-2031

Abstract: A number of inorganic and organic compounds have been investigated as basic substances for the determination of titres of ethylenediaminetetraacetic acid (I) solutions. Titration of the investigated substances with I solutions was conducted employing standard methods. Each substance was titrated 5-7 times and the obtained results were subjected to the statistical treatment. The investigated compounds fall into the following

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CZECHOSLOVAKIA / Analytical Chemistry. General Problems. E-1

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57115.

Abstract: groups: 1) metals and their oxides, 2) anhydrous inorganic salts, 3) inorganic salts having water of crystallization, 4) organic metal complexes, 5) dinitric salts of I. Of the first group Cu, Ni, Zn and also AnO have low equivalent weights; more suitable are Cd, Bi and PbO. The whole first group of substances yields poor control of the sharpness. From the second group of substances, $Pb(NO_3)_2$ and $PbCl_2$ are fully suitable. Substances of the third group ($ZnSO_4 \cdot 7H_2O$, $(NH_4)_2 Mg (SO_4)_2 \cdot 6H_2O$, $(NH_4)_2 Cd (SO_4)_2 \cdot 6H_2O$, and $Cd (IO_3)_2 \cdot H_2O$) are unsuitable (despite their high equivalent

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CZECHOSLOVAKIA / Analytical Chemistry. General Problems. E-1

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57115.

Abstract: weight) since their contents of the associated water of crystalization is not constant. More suitable are substances of the fourth group (Cd and Zn-dipyridyl-rhodanides, Cd-antranylate) however, control of their composition is made difficult as a result of a loss of pyridine to the complex formation that takes place at elevated temperatures. Application of the $Na_2$-salt of I is complicated due to difficulties encountered in purification of the commercial grades and also due to hygroscopicity of the anhydrous compounds (dehydration of I requires considerable time). Purity of the $Na_2$-salt of I may be controlled only through titration. Of all the investigated substances suitable as a complexometrical standard, $PbCl_2$ was found to possess desirable characteris-

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3



Abstract : The apparatus consists of an ion-exchange column for water purification and a reservoir for the storage of purified water. A simple device comprising a float and a valve turns on automatically the flow of water by maimtaining a constant level within the reservoir.
-- M. Ryba.

Card: 1/1

E-2

SOV/69-20-6-12/15

AUTHORS: Soboleva, N.I., Bol'shakov, A.G., Kortnev, A.V.

TITLE: The Precipitation of Magnesium Hydroxide Suspensions in an Ultrasonic Field (Osazhdeniye suspenzii gidrookisi magniya v ul'trazvukovom pole)

PERIODICAL: Kolloidnyy zhurnal, 1958, Vol 20, Nr 6, pp 742-747 (USSR)

ABSTRACT: Ultrasound is used for the dispersion of liquid and solid substances [Ref 1-3], for the precipitation of aerosols and the coagulation of hydrosols [Ref 1, 3-5], for the crystallization of supercooled liquids [Ref 6-8], etc. The precipitation of a $Mg(OH)_2$ suspension in various concentrations and frequencies is studied. This process has great technological importance, e.g. in soda production. A generator tube type GK-3,000 was used with frequencies between 270 and 2,300 kilocycles. The ultrasonic oscillations ranged from 300 to 2,000 kilocycles. Figure 2 shows that the precipitation speed is highest after 5 minutes of ultrasonic treatment. At low concentrations, the precipitation curves nearly coincide (Figure 3). The dependence of precipitation on frequency is shown in Figure 4. The strongest influence of ultrasound is exerted on concentrations of 6.61; 5.83;

Card 1/2

GASYUK, G.N.; BOL'SHAKOV, A.G.; KORTNEV, A.V.; KRAYNIY, P.Ya.

Mass transfer coefficient in liquid phase. Zhur. prikl. khim. 31 no.7:1019-1025 Jl '58. (MIRA 11:9)

1. Odesskiy politekhnicheskiy institut.
(Mass transfer)

AUTHORS: Gasyuk, G.N., Bol'shakov, A.G., Kortnev, A.V. and Krayniy, P.Ya. SOV/80-59-1-15/44

TITLE: Coefficients of Mass Transfer in Gaseous Phase (Koeffitsiyenty massoperedachi v gazovoy faze) Second Communication (Soobshcheniye II)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Nr 1, pp 95-99 (USSR)

ABSTRACT: This investigation was performed for the purpose of calculating absorption processes in a gas-lift apparatus for various gas - liquid systems. In a previous paper [Ref. 1] the authors presented the results of studying the dependence of mass transfer coefficient on the velocity of liquids and the depth of immersion in the liquid phase. The present paper furnishes analogous information for the gaseous phase, obtained on a special experimental installation for the system sulfur dioxide - air - water. The authors established a relationship between the mass transfer coefficient in the gaseous phase and the volumetric velocity of the gas and the depth of immersion. The treatment of the experimental data was carried out by Bol'shakov's method [Ref. 6] with the application of the theory of similarity. The generalized equation expressing the relation found looks as follows:

$$Nu'_r = 0.032\, Re_r^{0.87} (Pr'_r)^{0.5} \left(\frac{h}{20}\right)^{0.306}$$

Card 1/2

where $Nu'$ is the diffusion criterion of the Nusselt type, $Re'$ is Reynolds criterion for the gas, $Pr'$ is Prandtl's diffusion criterion for the gas, and h is immersion depth in per cent. There are 2 graphs and 6 Soviet references.

ASSOCIATION: Odesskiy politekhnicheskiy institut (Odessa Polytechnic Institute)

SUBMITTED: May 8, 1957

SOV/3-59-3-33/48

22(1)

AUTHOR: Kortnev, A.V., Candidate of Technical Sciences, Docent; Gayuk, G.N., Candidate of Technical Sciences; Kutsenko, A.N.

TITLE: This Was Done in a Vuz (Eto sdelano v vuze) - Stands for Taking the Characteristics of Electron Tubes (Stendy dlya snyatiya kharakteristik elektronnykh lamp)

PERIODICAL: Vestnik vysshey shkoly, 1959, Nr 3, pp 65-68 (USSR)

ABSTRACT: The examination of electron tubes as part of the practical work in physics usually causes many methodological difficulties and requires bulky equipment. Workers of the Chair of Physics of the Odessa Polytechnical Institute have therefore worked out a new method of carrying out this training work. Two small stands were made: one for examining diode and triode tubes, the other for tetrodes and pentodes. They contain the following 4 devices: a large scale milliammeter permitting to measure the anode current from

Card 1/4

This Was Done in a Vuz - Stands for Taking the Characteristics of Electron Tubes

0 to 30 ma over 3 diapasons - 3, 9 and 30 ma; a high-resistance voltmeter for measuring voltage from 30 to 300 volt; a large-scale voltmeter (Vc) for measuring grid voltage from -6 to plus 6 volts, from -9 to plus 9 volts and from -18 to plus 18 volts; and a voltmeter for measuring filament voltage. Every device has clamps or sockets for circuit connection. On a horizontal panel are fixed: filament voltage and grid voltage regulators and a switch allowing to lead-in the load resistances into the anode circuit, clamps and sockets for switching on the devices and current sources, and 2 small lamp panels. Here is also a circuit diagram under plexiglass. The connection of the devices on the stand is carried out by wires with single-pin plugs. It is convenient to use a zero point potentiometer. With switch $P_1$, the load resistances $R_1$, $R_2$, $R_3$, $R_4$ can

This Was Done in a Vuz - Stands for Taking the Characteristics of Electron Tubes

be connected to the anode circuit of the tube, thereby taking the tube's dynamic characteristics. At the second stand tetrodes and pentodes are examined. This work is practically a continuation of the study of diodes and triodes. Besides the devices mounted on the first stand, there are on this stand a milliammeter for measuring the current on the screen grid, and a high-resistance voltmeter for measuring the voltage on the screen grid with a measurement range from 30 to 200 volts. On the horizontal panel are fixed: a grid voltage regulator, clamps and sockets for connecting the devices and current sources, sockets for the connectors $P_1$, $P_2$, $P_3$, $P_4$, $P_5$, and 3 small tube panels. At this stand high-frequency pentodes of the 6Zhi and 6K3 type, and small-button pentodes of the 6Zh3P type can be examined,

Card 3/4





This Was Done in a Vuz - Stands for Taking the Characteristics of Electron Tubes

and not only the static characteristics can be taken, but alos the influence of the anode or cathode load on their characteristics can be studied. Rectifiers serve as current sources for the anode circuits and the circuits of the screen grid. The stands were made in the workshop of the institute's Chair of Physics. There are 2 photographs and 2 diagrams.

ASSOCIATION: Odesskiy politekhnicheskiy institut (Odessa Polytechnical Institute)

Card 4/4

GASYUK, G.N.; BOL'SHAKOV, A.G.; KORTNEV, A.V.; KRAYNIY, P.Ya.

Coefficients of mass transfer in the gaseous phase. Zhur. prikl.khim. 32 no.1:95-99 Ja '59. (MIRA 12:4)

1. Odesskiy politekhnicheskiy institut.
(Mass transfer)

5(2) SOV/80-32-4-11/47

AUTHORS: Gasyuk, G.N., Bol'shakov, A.G., Kortnev, A.V., Krayniy, P.Ya.

TITLE: Dependence of the Process of Carbonization of Ammonia Brines in the Gas Lift Apparatus on Hydrodynamic Factors (Zavisimost' protsessa karbonizatsii ammiachnykh rassolov v gazliftnom apparate ot gidrodinamicheskikh faktorov). Communication 2 (Soobshcheniye 2)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 4, pp 770-777 (USSR)

ABSTRACT: The effect of the consumption of liquid and gas on the carbonization of ammonia brines is investigated. The gas consumption varied from 5,650 $m^3/m^2$. hour to 5,800 $m^3/m^2$. hour, the concentration of the entering carbon dioxide from 36 to 38%, the consumption of liquid from 42 to 397 $m^3/m^2$. hour, the depth of immersion from 7 to 30%. It is shown that the increase of the liquid consumption raises the general absorption coefficient only slightly: a 9.5-fold increase of the former causes only a 1.5-fold increase of the latter. Figure 3 shows the dependence of the absorption coefficient on liquid consumption in brines with various ammonia contents and Figure 4 for brines

Card 1/2

Dependence of the Process of Carbonization of Ammonia Brines in the Gas Lift Apparatus on Hydrodynamic Factors. Communication 2

with various degrees of carbonization. The dependence of the degree of carbonization on the gas consumption was studied at a temperature of 30°C, a liquid consumption of 183 $m^3/m^2$ . hour, a carbon dioxide concentration of 37-38%. Gas consumption varied from 2,720 to 12,510 $m^3/m^2$. hour. The immersion depth varied from 10 to 25%.
There are 11 graphs and 2 Soviet references.

SUBMITTED: October 8, 1957

Card 2/2

GASYUK, G.N.; KORTHEV, A.V.

Thorough preliminary carbonization in gas-lift units in the soda production. Khim.prom. no.5:399-401 Jl-Ag '60.
(MIRA 13:9)

1. Odesskiy politekhnicheskiy institut.
(Soda industry--Equipment and supplies) (Carbon dioxide)

KORTNEV, Andrey Vasil'yevich; RUBLEV, Yuriy Vladimirovich; KUTSENKO, Al'fred Nikolayevich; IVANOV, I.A., red.; GRIGORCHUK, L.A., tekhn. red.

[Practical work in physics] Praktikum po fizike. Moskva, Gos. izd-vo "Vysshaia shkola," 1961. 426 p. (MIRA 15:2)
(Physics—Laboratory manuals)

S/194/62/000/012/065/101
D295/D308

AUTHORS: Kortnev, A. V., Tsesler, B. I., Rublev, Yu. V. and Bodel', G. S.

TITLE: Ultrasonic 'cavitometer'

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 12, 1962, 19, abstract 12-5-37 shch (Nauchn. sap. Odessk. politekhn. in-t, v. 37, 1962, 3-8)

TEXT: An instrument is described for determining the conditions of the inception of cavitation and for measuring the characteristics of sound fields in a liquid. The instrument permits the determination of sound pressure values in the range of operating frequencies of magneto-striction transducers (15 - 35 kc/s) and in the frequency range of the cavitation spectrum (up to 300 kc/s). The 'cavitometer' consists of a measuring probe (with a barium titanate transducer and an interference filter, which secures conditions for the existence of a travelling wave in the probe waveguide over a wide frequency range 10 - 300 kc/s) and a measuring instrument

Card 1/2

S/194/62/000/012/065/101
D295/D308

Ultrasonic 'cavitometer'

comprising a frequency selector, an electron-tube voltmeter and an oscilloscope. The frequency selector permits the suppression of the fundamental frequency of the existing field, thereby obtaining a value across the voltmeter proportional to the total signal from cavitation noise. The circuit diagram of the instrument is given. 5 references. /Abstracter's note: Complete translation./

Card 2/2

40999

S/058/62/000/009/013/069
A006/A101

24,1800

AUTHORS: Rublev, Yu. V., Protopopov, R. V., Kortnev, A. V.

TITLE: Interference ultrasonic energy absorber

PERIODICAL: Referativnyy zhurnal, Fizika, no. 9, 1962, 36, abstract 90266 ("Nauchn. zap. Odessk. politekhn. in-t", 1962, v. 37, 9 - 16)

TEXT: For the purpose of eliminating undesirable reflected waves in a waveguide during the production of a wide band probe, the use of an interference absorber is proposed. A theoretical analysis is made of the problem of wave damping for the case of superposition of a direct wave and a series of reflected waves in a two-layer absorber design. For some particular cases the optimum thickness of the layer between the waveguide and the absorbing material is calculated and the latter is selected. The calculations show that for the case when nickel is used for the waveguide and glycerin as intermediate medium, cork and gypsum are the most suitable materials to obtain an operational band up to 100 kilocycles.

[Abstracter's note: Complete translation]

Yu. Borisov

Card 1/1

GLAVATSKIY, D.Ye.; KORTNEV, A.V.

Crystallization of tartaric acid in an ultrasonic field. Nauch. zap. Od. politekh. inst. 41:22-26 '62. (MIRA 17:4)

KORTNEV, A.V.; PROTOPOPOV, R.V.; RUBLEV, Yu.V.

Method for studying the absorbing capacity of wave guide transducers designated for acoustic intensity measurements. Nauch. zap. Od. politekh. inst. 41:27-30 '62. (MIRA 17:4)

S/194/62/000/012/058/101
D295/D308

AUTHORS: Kortnev, A. V., Gardymova, Z. N., Protopopov, R. V. and Rublev, Yu. V.

TITLE: Calibration of thermoelectric meters of ultrasonic intensity

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 12, 1962, 12, abstract 12-5-23 e (Nauchn. zap. Odessk. politekhn. in-t, v. 37, 1962, 54-59)

TEXT: The problem of the calibration of thermoacoustic pickups is considered. The authors suggest that the intensity distribution be determined in relative units at a certain distance from the transducer by means of a coordinate-type apparatus, using the topographical-survey method. The obtained energy values should be added together and equated to the energy measured by some absolute method, e.g. by a calorimeter. The proportionality factor will then be the sensitivity of the temperature detector. Data are given on the method of calibrating pickups in the form of differential thermocouples

Card 1/2

Calibration of thermoelectric ...

with the hot layer covered by 8Φ-2 (BF-2) resin glue. [Abstracter's note: Complete translation.]

Card 2/2

S/058/62/000/009/012/069
A006/A101

AUTHORS: Breytbart, G. Ya., Kortnev, A. V.

TITLE: Hydrodynamic sonic and ultrasonic emitters

PERIODICAL: Referativnyy zhurnal, Fizika, no. 9, 1962, 29, abstract 90222 ("Nauchn. zap. Odessk. politekhn. in-t", 1962, v. 37, 69 - 75)

TEXT: In a critical bibliographical note the authors compare various formulae for calculating proper oscillations of metallic reeds, placed in an air or water jet for the purpose of exciting high-power sonic or ultrasonic oscillations in the medium. A great number of misprints in the formulae published is noted. The positive and negative sides of a resonance are investigated for the case when frequencies of stripping eddies coincide with the proper frequencies of the reed. Some methods of fastening the reeds are discussed. There are 11 references.

G. Ostroumov

[Abstracter's note: Complete translation]

Card 1/1

S/058/63/000/001/077/120
A160/A101

AUTHORS: Glavatskiy, D. Ye., Kortnev, A. V.

TITLE: The crystallization of tartaric acid in a supersonic field

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 48, abstract 1E314 ("Nauchn. zap. Odessk. politekhn. in-t", 1962, 41, 22 - 26)

TEXT: An investigation was conducted of the effect of ultrasound with a constant intensity and frequency on the crystallization process of tartaric acid. It is shown that the ultrasound considerably accelerates the crystallization process of tartaric acid, whereby the process accelerates with an increase of the supersaturation. It may be assumed that the action of the ultrasound is analogous to an increase of the solution supersaturation. The action of the ultrasound, however, is more effective than the supersaturation. During the crystallization of tartaric acid, a fine-dispersed system is obtained in the ultrasonic field. The maximum dimensions of the crystals depend on the degree of the solution supersaturation. When increasing the supersaturation, the maximum on the distribution curves shifts to the side of smaller dimensions and

Card 1/2

S/058/63/000/001/077/120
A160/A101

The crystallization of tartaric acid in...

the homogeneity of the separated crystals is improved.

[Abstracter's note: Complete translation]

Card 2/2

S/139/63/000/001/019/027
E202/E420

AUTHORS: Kutsenko, A.N., Kortnev, A.V.

TITLE: Temperature of spark discharge in liquid

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika, no.1, 1963, 112-114

TEXT: The authors evaluated electron temperature in a channel of a condensed spark discharge in water using spectroscopic methods. A battery of condensers of 0.25 to 1.25 μF was charged through a resistance from the high voltage rectifier up to a voltage U = 25 kV and then discharged in water over a distance of $\ell$ = 3 to 4 cm. Spark radiation emerging through quartz windows built into the bath was focused on the slit of a ИСП-28 (ISP-28) spectrograph. The spectra photographed on emission spectrum film type СП-2 (SP-2) were found to be continuous and similar to the high current spark discharges in the gases. The intensity of such radiation is given by

$$I_\nu = A\, n_e^2\, T_e^{-\frac{1}{2}}\, e^{-\frac{h\nu}{kT_e}}$$

where $I_\nu$ - intensity of the bremsstrahlung, A - a constant,

Card 1/3

Temperature of spark ...

$n_e$ - concentration of electrons in plasma. By comparing the intensities of radiations $I_1$ and $I_2$ for frequencies $\nu_1$ and $\nu_2$ it is possible to determine the electron temperature $T_e$. Since the films have approximately equal spectral sensitivity in the region of 3800 to 4400 Å, it was possible to measure the distribution of radiant energy in the relative units $I/I_o$ along the wavelengths. These data gave a straight line when plotted as $\log I/I_o$ vs $h\nu/k$. The slope of this curve $\theta$ gave $T_e$, viz. $T_e = \cot \theta$. It was found that with $U = 25$ kV, $\ell = 4$ cm and $C = 1.25$ μF, the electron temperature is of the order of $2 \times 10^4$°K. In addition to the photometric studies, oscillographic measurements were also taken. Pulses from a УМ-2 (UM-2) monochromator were passed to spectrophotometric multiplier ФЭУ-29 (FEU-29) and from there to the oscilloscope ЭО-58 (EO-58). The oscillograms showed the change in the intensity with time for a definite wavelength range $d\lambda$, and also the duration of the radiating discharge channel. The latter varies within the range of 150 to 3000 μ sec. However, quantitative measurements of $I = f(t)$ were found to be difficult since they could only be

Card 2/3

Temperature of spark ...

referred to different discharges taking place at different times. The voltage across the discharge path in water and the current passing through it were measured by means of a double beam oscilloscope OK-21. The pulse duration was 5 to 6 μ sec and the current attained 10 kA. The power dissipated in the channel was 107 W. There are 3 figures.

ASSOCIATION: Odesskiy politekhnicheskiy institut
(Odessa Polytechnic Institute)

SUBMITTED: November 24, 1961

Card 3/3

KORTNEV, Andrey Vasil'yevich; RUBLEV, Yuriy Vladimirovich; KUTSENKO, Alfred Nikolayevich; IVANOV, I.A., red.; GARINA, T.D., tekhn. red.

[Laboratory manual on physics] Praktikum po fizike. Izd.2., dop. Moskva, Vysshaia shkola, 1963. 515 p. (MIRA 17:2)

GLAVATSKIY, D.Ye. [Hlavats'kyi, D.IU.]; KORTNEV, A.V. [Kortniev, A.V.]; KUTSENKO, A.N. [Kutsenko, A.M.]

Effect of high-voltage pulse discharges on crystallization. Ukr. fiz. zhur. 9 no.1:96-97 Ja '64. (MIRA 17:3)

1. Odesskiy politekhnicheskiy institut.

ACCESSION NR: AP4036571 S/0139/64/000/002/0147/0148

AUTHORS: Glavatskiy, D. Ye.; Kortnev, A. V.; Kutsenko, A. N.

TITLE: Crystallization of solutions under high-voltage pulse discharge

SOURCE: IVUZ. Fizika, no. 2, 1964, 147-148

TOPIC TAGS: high voltage, arc discharge, crystallization, tartaric acid, ultrasonic pulse, water solution, OK 17M oscillator, E 149 ultrathermostat, RL refractometer, MBI 3 microscope

ABSTRACT: The effect of high-voltage-condenser arc discharge on the kinetics of crystallization of saturated tartario-acid water solution was studied experimentally. A battery condenser of 1-25 microfarad capacity was charged up to 15 kv potential through KRM-150 kinotrons and then discharged over a 6-8-mm gap in the solution. Current through the gap was measured by the two-beam oscillator OK-17M. Successive pulse frequencies were 40 sec. Temperature was controlled to 0.1C by means of an E-149 ultrathermostat. Changes in solution concentration during the experiment were monitored by an RL refractometer, with a TC-15 thermostat control. The results were compared to mechanical mixing and to 0.5 v/cm ultrasonic-field

Card 1/2

ACCESSION NR: AP4036571

pulse techniques. It was found that the discharge method substantially shortens the latent period and speeds up the crystallization process. The crystal dimensions were measured by an MBI-3 microscope with an objective micrometer. The average size was 0.1 mm and the maximum size was 0.5 mm. Orig. art. has: 2 figures.

ASSOCIATION: Odesskiy politekhnicheskiy institut (Odessa Polytechnical Institute)

SUBMITTED: 01Oct62 ATD PRESS: 3068 ENCL: 00

SUB CODE: SS, EC NO REF SOV: 008 OTHER: 000

Card 2/2

ACCESSION NR: AP4033406 S/0076/64/038/003/0737/0738

AUTHOR: Glavatskiy, D. Ye.; Kortnev, A. V.; Kutsenko, A. N.

TITLE: The effect of high voltage pulse discharge in liquids on the crystallization process.

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 3, 1964, 737-738

TOPIC TAGS: impulse discharge, spark discharge, crystallization process, tartaric acid, sedimentation analysis, high voltage pulse discharge

ABSTRACT: The effect of high voltage condensed spark discharge on the crystallization kinetics of saturated tartaric acid solutions was studied. A bank of capacitors (charged up to U=3 kv) was discharged in a solution between two steel electrodes, separated by a 2 mm gap, at a frequency of 15 to 20 pulses/min. The 4 liter non-corrosive steel container was placed in a thermostat controlled with accuracy of ± 0.1 C. For this purpose an ultrathermostat, type E149, was used. The saturated solution obtained at 50 C was gradually cooled to 20 C and filtered. The change in concentration was measured by an RL refractometer. The average

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ACCESSION NR: AP4033406

results of five experiments showed that crystallization begins after 5 - 10 pulses with the rate of the process increasing rapidly and after 250 to 300 impulses the process is fully completed. The crystal distribution was studied by sedimentation analysis at 20 C with a saturated solution of tartaric acid serving as the dispersion solution. The maximum crystal sizes, determined by means of a MBI-3 microscope were ~0.2 to 0.25 mm and the maximum from the differential curve for crystal distribution F(e) corresponded to the more probable values of 0.03 to 0.04 mm. It was shown by the Fourier integral curve that the audio impulse which accompanies the discharge lasts from 20 to 40 micro sec. and it consists of frequencies from 0 to 10 - 15 kc. The spark discharge is accompanied by electromagnetic radiation and electrolysis which helps in seeding of a large number of crystallization centers. The impact wave, formed in the solution, disperses the already formed crystallization centers and thus enhances the process. It is concluded that spark discharge in liquids may serve as one of the methods for initiation of the crystallization process in saturated solutions. Orig. art. has: 2 figures.

ASSOCIATION: Odesskiy politekhnicheskiy institut (Odessa Polytechnic Institute)

SUBMITTED: 19Feb63 ENCL: 00

Card 2/3



Card 3/3

L 10083-67 EWT(l)/EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) JD/WB
ACC NR: AT6026363 SOURCE CODE: UR/3209/66/000/001/0005/0021

55

AUTHOR: Makarov, V. K. (Mathematician, Assistant); Kortnev, A. V. (Professor, Candidate of technical sciences)

ORG: none

TITLE: Thermodynamic and static methods of studying ultrasonic cavitation

SOURCE: Ukraine. Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya. Mezhvedomstvennyy respublikanskiy nauchno-tekhnicheskiy sbornik, 1966. Akustika i ul'trazvuk (Acoustics and ultrasonics), no. 1, 5-21

TOPIC TAGS: ultrasonic vibration, liquid state, cavitation, thermodynamic analysis, nucleate boiling, boiling point, temperature dependence, pressure dependence

ABSTRACT: A theoretical analysis of ultrasonic cavitation was made and experiments were conducted on acoustical measurements under cavitation conditions. An equation for the critical radius of a gas nucleus ($R^4$) forming in liquids under metastable thermodynamic conditions was obtained by differentiating the total free energy of a system, in which the surface free energy is given by $4\pi\sigma R^2$. The number of bubbles having a radii equal to $R^4$ is given by

$$N(g^4) = C \exp(-4\pi\sigma R^{42}/3kT).$$

Card 1/3

ACC NR: AT6026363

The constant $C = v_{liq}^{x}/v_A$, where $v_{liq}$ is the volume of the liquid, $v_A$ is the molecular volume, and $x$ is the molal gas content in the liquid phase. An equation is also given for the total volume of gas nuclei ($V_k$) formed during cavitation at a frequency of 20 Kc in the temperature range 10-60°C, for different molal air contents ($x$) dissolved in water. Experimental results showed that cavitation was highly dependent on the gas content of the liquid. With increase in temperature, the value of $x$ had a lower effect on $V_k$. The value of $V_k$ was proportional to the nucleation rate while the maximum cavitation pressure was proportional to $T^{-3}$ where $T$ is the absolute temperature of the liquid. High speed motion pictures were made of the cavitation process. At 24 Kc, the diameter of the cavitation bubbles went through a maximum as a function of oscillation time. This change was caused by the rise in surface tension due to vapor formation. Measurements of cavitation impulse pressure were dependent on hydrophone design. Oscillographic measurements of cavitation impulses peaked strongly at the maximum amplitudes of the free oscillations (1.2 and 3 Mc). A special thermostat was used to obtain the temperature dependence of the maximum amplitude of cavitation impulses during heating and cooling. Simultaneously, aluminum samples were tested for cavitation erosion. The strongest maxima were observed at 60°C upon heating and cooling, while some strengthening occurred after cooling below 40°C. Erosion was directly proportional to the cavitation pressure. Further tests showed that by maintaining the temperature at 80°C for 2-3 hr the cavitation action became strongest at room temperature due to lowered gas

L 10083-67
ACC NR: AT6026353

content. Under atmospheric pressure and at 20°C the maximum impulse amplitude occurred at a volume ratio of air to water of 0.0145. Orig. art. has: 9 figures, 1 table, 21 formulas.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 006

Card 3/3

KUTSENKO, A.M. [Kutsenko, A.M.]; KORTNEV, A.V. [Kortnev, A.V.]

Temperature of a spark discharge in a liquid. Ukr. fiz. zhur. 10 no.9:1033-1035 S '65. (MIRA 18:9)

1. Odesskiy politekhnicheskiy institut.

KORTNEV, A.V.; RUBLEV, Yu.V.; SHIL'GORIN, F.A.; TSESLER, B.I.

Photoelectronic method for determining the stressed state of models using the photoelasticity technique under both dynamic and static conditions. Zav. lab. 31 no.9:1119-1122 '65. (MIRA 18:10)

1. Odesskiy politekhnicheskiy institut i Odesskiy zavod pressov.

UDC: 62-50

Card 1/2

ACC NR: AP6034566

of the phase space to another. The control system realized in accordance with this concept includes a functional transformation block which controls the value of the gain coefficient in relation to the system's transient behavior. Orig. art. has: 27 formulas.

SUB CODE: 09,12/ SUBM DATE: 22Jul66/ ORIG REF: 007

Card 2/2

SHCHERBAKOV, V., inzh.; KORTNEV, O., inzh.

Hydraulic giant for the cleaning of petroleum tank vessels from petroleum product residues. Rech.transp. 20 no.6:45-46 Je '61. (MIRA 14:6)

1. Astrakhanskoye TSentral'noye konstruktorskoye byuro Ministerstva rechnogo flota.
(Tank vessels—Cleaning)

L 4215-66 EWT(l)/EWT(m)/ETC/EPF(n)-2/EWG(m)/EPA(w)-2/EWP(t)/EWP(k)/EWP(b)/
EWA(c) IJP(c) JD/HW/AT

ACCESSION NR: AP5024133 UR/0185/65/010/009/1033/1035

AUTHOR: Kutsenko, A. M.; Kortnyev, A. V.

TITLE: The temperature of spark discharges in liquids

SOURCE: Ukrayins'ky fizychnyy zhurnal, v. 10, no. 9, 1965, 1033-1035

TOPIC TAGS: gas discharge plasma, gas discharge spectroscopy, plasma temperature

ABSTRACT: Few data are available on the temperature of spark discharges in liquids. The present paper gives experimental data concerning the temperature and some other properties of spark discharges in water (see Tables 1 and 2 of the Enclosure). The temperature of the plasma is calculated by means of the approximate equation

$$T_e \approx \frac{h}{k\frac{d}{d\nu}\ln J(\nu)} \qquad (1)$$

where h and k are Plank's and Boltzmann's constants, respectively, and $d(\ln J(\nu))/d\nu$ is obtained from the slope of the spectral characteristics. The equation is obtained from a quasi-classical expression for the total exchange recombination intensity. The authors also determine the spark discharge temperature in high voltage condensed sparks in the air and in the region bounded by liquid using the

Card 1/4

L 4215-66

ACCESSION NR: AP5024133

intensities of the 5105.54 and 5153.24 Å lines. With a voltage of U = 25 kv, interelectrode distance of l = 1.5 cm, and battery capacitance C = 1.25 μf, the temperatures are T ∿ $1.5 \cdot 10^4$K and ∿ $2 \cdot 10^4$K, respectively. Orig. art. has: 3 formulas, 3 figures, and 2 tables. [08]

ASSOCIATION: Odes'kyy politekhnichnyy institut (Odessa Polytechnic Institute)

SUBMITTED: 29May63 ENCL: 02 SUB CODE: ME

NO REF SOV: 005 OTHER: 002 ATD PRESS: 4121

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L 4215-66

ACCESSION NR: AP5024133 ENCLOSURE: 01

Table 1. Spark discharge in water

| C, μf | U = 25 kv, l = 2.5 cm, $\sigma_{H_2O} = 5 \cdot 10^{-5}$ ohm$^{-1}$ cm$^{-1}$; copper tip-tip electrodes | | |
|---|---|---|---|
| | $T_e$, °K | $I_{max}$, ka | p, atm |
| 1.25 | $2 \cdot 10^4$ | 6 | 65 |
| 1 | $1.8 \cdot 10^4$ | 4.8 | 36 |
| 0.75 | $1.7 \cdot 10^4$ | 3.6 | 28 |
| 0.5 | $1.6 \cdot 10^4$ | 2.4 | 8 |
| 0.25 | — | 1.2 | 4 |

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L 4215-66
ACCESSION NR: AP5024133

ENCLOSURE: 02

Table 2. Spark discharge in water

| l, cm | U = 25 kv, C = 1.25 μf, $\sigma_{H_2O} = 5 \cdot 10^{-5}$ ohm$^{-1}$ cm$^{-1}$; copper tip-tip electrodes | | |
|---|---|---|---|
| | $T_e$, °K | $I_{max}$, ka | p, atm |
| 1 | — | 10.6 | 65 |
| 2 | $2.6 \cdot 10^4$ | 7.2 | 72 |
| 3 | $1.9 \cdot 10^4$ | 5.2 | 58 |
| 4 | $1.75 \cdot 10^4$ | 4.5 | 28 |
| 5 | $1.7 \cdot 10^4$ | 4.1 | — |
| 6 | $1.65 \cdot 10^4$ | 3.8 | — |

Card 4/4 DP

KORTOV, A. I.

Cestoda

New cestodes of birds. Trudy Gel'm. lab. No. 5, 1951.

9. Monthly List of Russian Accessions, Library of Congress, September 1952, Uncl.

ACC NR: AT7001709 (N) SOURCE CODE: UR/2694/65/000/143/0005/0009

AUTHOR: Kortov, V. S.; Sukhanova, K. A.

ORG: none

TITLE: Use of the method of spatial separation of scattered and primary gamma radiation to monitor the thickness of materials

SOURCE: Sverdlovsk. Ural'skiy politekhnicheskiy institut. Trudy, no. 143, 1965. Atomnaya i molekulyarnaya fizika (Atomic and molecular physics), 5-9

TOPIC TAGS: gamma scattering, thickness gauge, radioisotope, scintillation counter

ABSTRACT: The authors first point out that some of the shortcomings of presently used radioisotopic thickness gauges, especially those connected with the fact that the scintillation counter employed receives both the primary radiation from the source and the scattered $\gamma$ radiation, can be eliminated by separating the direct and scattered radiation in space. This separation is effected by using a special relative placement of the $\gamma$ source, the measured material, and the scintillation counter (Fig. 1). The measured material is exposed to an oblique collimated beam of $\gamma$ quanta of high energy, and a lead shield is used to prevent the direct $\gamma$ radiation from striking the counter. The thickness is then determined from the frequency of the scintillation-counter output pulses. This reduces the loading of the scintillation counter and ensures its operating stability. Other advantages of the method are increased sensitivity through the use of stronger $\gamma$ sources, reduction in the time delay

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ACC NR: AT7001709

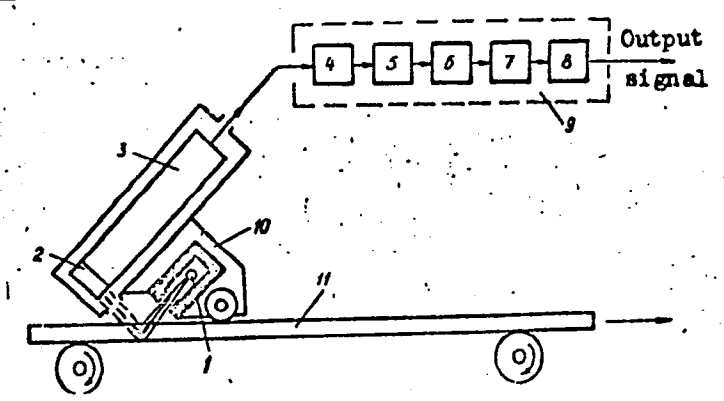


Fig. 1. Arrangement of radioisotopic thickness gauge with spatial separation of scattered and primary $\gamma$ radiation. 1 - $Co^{60}$; 2 - NaI(Tl) scintillation crystal; 3 - photomultiplier; 4 - logarithmic amplifier; 5 - normalizer; 6 - intensity gauge; 7 - comparison circuit; 8 - output relay-signal device; 9 - electronic block; 10 - pickutp; 11 - measured material.

because of the greater intensity of the scattered radiation, and simpler construction. A model of the radioisotope thickness gauge based on this method was prepared at the Electrophysics Laboratory of the Physicotechnical Department of the Ural Polytechnic Institute and used in a nonferrous rolling mill. The production tests confirmed the advantages of the new method. Orig. art. has: 3 figures and 1 formula.

SUB CODE: 18, 20, 14/ SUBM DATE: 00/ ORIG REF: 004

Card 2/2

ACC NR: AT7001710 SOURCE CODE: UR/2694/65/000/143/0010/0014

AUTHOR: Kortov, V. S.; Sukhanova, K. A.; Sazykin, V. V.

ORG: none

TITLE: Control of the total thickness of a bimetallic rolled sheet and of the thickness of its steel base

SOURCE: Sverdlovsk. Ural'skiy politekhnicheskiy institut. Trudy, no. 143, 1965. Atomnaya i molekulyarnaya fizika (Atomic and molecular physics), 10-14

TOPIC TAGS: bimetal, metal rolling, thickness gauge, radioisotope, gamma scattering

ABSTRACT: The article describes a model of a new radioisotopic thickness gauge, intended to control the operation of rolling mills for metallurgical shops producing thin rolled bimetallic sheets. The base of such a bimetal is a thin sheet of soft low-carbon steel, on which an antifriction aluminum alloy is deposited by rolling. Each batch of bimetal has to satisfy certain tolerances with respect to the thickness of the individual layers. The apparatus consists of the steel base and auxiliary equipment. The radioisotopic thickness gauge for the steel base is similar to that described in the same source (p. 5, Acc. Nr. AT7001709) and is based on spatial separation of the scattered $\gamma$ radiation from the primary source radiation. A model of the new instrument (Fig. 1) was constructed at the Electrophysical Laboratory of the Physicotechnical Department of the Ural Polytechnic Institute and was tested in the plant. The tests show that the new instrument can monitor a total thickness of bi-

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ACC NR: AT7001710

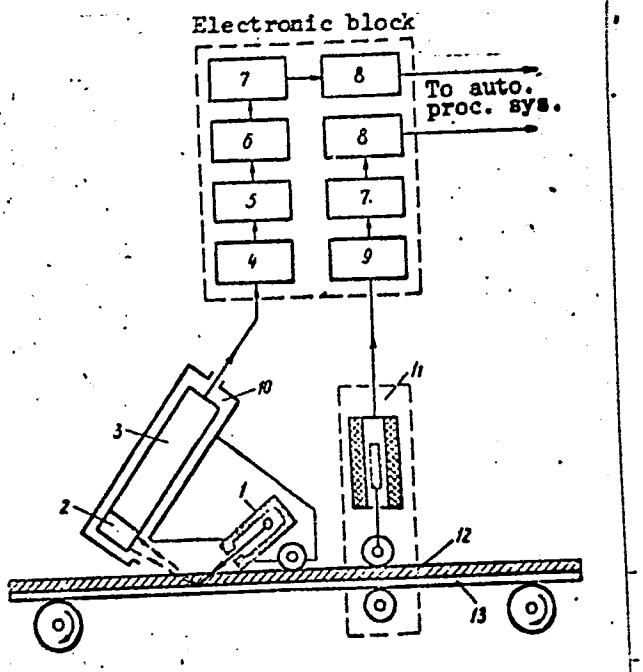


Fig. 1. Diagram of instrument for automatic monitoring of the total thickness of rolled bimetal sheet and the thickness of its steel base. 1 - $Co^{60}$ source; 2 - NaI(Tl) scintillation crystal; 3 - photomultiplier; 4 - logarithmic amplifier; 5 - normalizer; 6 - intensity meter; 7 - comparison unit; 8 - relay-signal output unit; 9 - phase sensitive rectifier; 10 - radiisotopic pickup; 11 - inductive pickup; 12 - steel base of sheet; 13 - aluminum cladding of sheet.

metal in the range 2.8 - 6.2 mm, for strips up to 300 mm wide and 2000 mm long. The tolerance is ± 0.2 mm. Orig. art. has: 1 figure.

SUB CODE: 18, 20, 14/ SUBM DATE: 00

ORIG REF: 006

Card 2/2

ACC NR: AT7001711 (N) SOURCE CODE: UR/2694/65/000/143/0015/0025

AUTHOR: Mints, R. I.; Kortov, V. S.

ORG: none

TITLE: Exoelectronic emission produced when the surface of austenitic steel is deformed by micro-impact

SOURCE: Sverdlovsk. Ural'skiy politekhnicheskiy institut. Trudy, no. 143, 1965. Atomnaya i molekulyarnaya fizika (Atomic and molecular physics), 15-25

TOPIC TAGS: electron emission, surface property, endurance test, metal deformation, austenitic steel

ABSTRACT: The authors first define the concept of micro-impact as a force applied for a short time, on the order of microseconds, on very small areas (of the order of $10^{-5}$ $mm^2$ or less), and point out the common features to a great variety of manifestations of such impacts (impact of a bullet, cavitation, jolt in a ball bearing, and others). In view of the lack of correlation between the macroscopic characteristics of the metal and its endurance to micro-impact, the authors analyze the action of the latter and estimate the surface strength of metal under such loading by starting from energy considerations of the deformation of the metal under contact loading. They then show that one suitable method for investigating the energy dissipation of microscopic volumes of metals under plastic deformation is the exoelectronic emission (the Krammer effect, J. Krammer, Der metallische Zustand, 1950). Reports are then pre-

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ACC NR: AT7001711

sented of tests of exoelectronic emission from a variety of nickel- and manganese-alloyed austenites and stainless steels. It is concluded that an investigation of the exoelectronic emission from deformed surface of austenitic steels makes it possible to determine the genetic influence of certain elements, particularly nickel, on their dissipated properties of microscopic properties of austenite. Accordingly, the endurance of austenitic alloys is determined primarily by the character and the nature of the solid solution. The exoelectronic emissivity of the surface of the metal indicates a general principle for selectring alloys that are capable of enduring micro-impact loading. To this end it is necessary to choose metastable alloys which are hardened not only by plastic deformation of the initial structure, but also by phase transformations such as solid-solution decay. Orig. art. has: 8 figures.

SUB CODE: 20, 11/ SUBM DATE: 00/ ORIG REF: 011/ OTH REF: 008

Card 2/2

L 46933-66 EWT(l)/EWT(m)/EWP(t)/ETI IJP(c) JD/AT

ACC NR: AP6015498 SOURCE CODE: UR/0181/66/008/005/1627/1628

49
B

AUTHOR: Kryuk, V. I.; Mints, R. I.; Kortov, V. S.

ORG: Ural Polytechnic Institute im. S. M. Kirov, Sverdlovsk (Ural'skiy politekhnicheskiy institut)

TITLE: Exoelectronic emission from ground Ge and Si surfaces

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1627-1628

TOPIC TAGS: electron emission, germanium, silicon, crystal surface

ABSTRACT: Exoelectronic emission (Kramer effect) from *n*-Ge and *n*-Si surfaces ground by emery was investigated. The electrons were registered by a secondary electronic multiplier in a $10^{-5}$ mm Hg vacuum. The pulses from the secondary electronic multiplier output were registered by a PST-100 scaler-printer. There is practically no emission from a nondeformed surface; the background level for all specimens is approximately the same and does not exceed 3-5% of the mean values of the emission current. Specimens treated with emery show an extensive emission which goes back to background level in approximately one hour. The emission of *n*-Ge is more intensive and has also a sharper drop than the *n*-Si emission. This essentially supports the findings of other investigators. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 03Dec65/ ORIG REF: 002/ OTH REF: 008

Card 1/1

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KORTOV, V.S.; MINTS, R.I.

Exoelectronic emission as a method of studying deformed metal surfaces. Fiz. met. i metalloved. 19 no.6:876-881 Je '65. (MIRA 18:7)

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KORTSENSHTEYN, Emil' Yakovlevich; PEVZNER, B.M., inzh., retsenzent; KONDRATOVICH, G.M., inzh., retsenzent; IVANOV, A.F., nauchn. red.; OZEROVA, Z. ., red.

[Submersible electric marine pumps] Sudovye pogruzhnye vodootlivnye elektronasosy. Leningrad, Izd-vo "Sudostroenie," 1964. 173 p. (MIRA 17:5)

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1191-2

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